

REMARKS

These amendments and remarks are in response to the Final Office Action dated August 3, 2009. This amendment is timely filed.

At the time of the Office Action, claims 1-29 were pending in the application. In the Office Action, claims 1-21, 25, and 29 were rejected under 35 U.S.C. §103(a). The rejections are discussed in more detail below.

I. Rejections of the claims based on cited art

Claims 1-7, 9, 11-15 and 17-21 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,721,388 to Takagi et al. (hereafter "*Takagi*") in view of U.S. Patent No. 6,954,557 to Kim et al. ("*Kim*"). Claims 25 and 29 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Takagi* and *Kim* in view of U.S. Patent No. 5,793,492 to Vanaki ("*Vanaki*"). Claims 8 and 16 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Takagi* and *Kim* in view of U.S. Patent Publication No. 2006/0158663 to Martienschledde et al. Claim 10 was rejected under 35 U.S.C. §103(a) as being unpatentable over *Takagi* and *Kim* in view of U.S. Patent Publication No. 2003/0038948 to Prinzhausen et al.

Applicant notes that the Office Action rejects claims 1-7, 9, 11-15 and 17-21 under 35 U.S.C. §102(b) based upon a combination of *Takagi* in view of *Kim*. It is assumed that this rejection was intended to be under 35 U.S.C. §103(a), as a combination of references is not allowable in an anticipation rejection. This response therefore has assumed that the Office Action contained a typographical error, and the rejection is thus addressed as a §103(a) rejection.

It is appreciated that the Examiner accepted Applicant's previous arguments related to *Takagi* because the Office Action now agrees on page 3, lines 1 and 2 that *Takagi* is silent with regard to rotating the sensor system about the measurement object for determining the contour data. However, the Examiner is of the opinion that *Kim* teaches the missing claim element and that, therefore, the claim as a whole is obvious. Applicant traverses this rejection as it is believed that the reasoning is not convincing. The Examiner argues that a skilled person would include the feature regarding the sensor being rotated about the measurement object from *Kim* into *Takagi* "for the purpose of obtaining data from all dimensions." However, *Takagi* obviously does not require

that the measuring object is measured from all dimensions. This is why the measuring device carrying the sensor (3) is placed on one side of the object and is movable only as a whole along the linear directions X, Y and Z and rotatable about the S-axis. This is obviously sufficient to gather all required data from the measurement object, which appears to be a rotor blade or the like.

Moreover, even if a skilled person would consider modifying the *Takagi* device to allow obtaining data from all dimensions, the skilled person would have rotated the measuring object instead of the sensor system. This is apparent from the considerations presented in connection with the linkage of the measuring coordinate system, 0, X, Y, Z, with the object coordinate system, 0-xyz (see column 4, line 13 to column 6, line 5). As discussed in column 4, lines 47 et seq., the coordinate conversion is relatively easy, and there is only one reference point required, if the coordinate axes in the object coordinate system 0-xyz are set parallel to those in the measuring coordinate system 0-XYZ. In contrast, where only one coordinate axis of the object coordinate system is parallel to the corresponding coordinate axis of the measuring coordinate system, two different reference points are required to determine a linkage (see column 5, line 4 to 40). Where no axis of the object coordinate system and measuring coordinate system are parallel, three different reference points are required, and a more complicated transformation (see column 5, line 41 to column 6, line 5) is necessary.

Therefore, according to the teaching of *Tagaki*, it would be preferable for a skilled person to work with a relatively fixed orientation according to Fig. 5 with all corresponding axes of object coordinate system and measuring coordinate system parallel to each other. If (for the sake of argument only) it would be required to gather data of the measuring object from all directions, the skilled person would rotate the measuring object (rather than rotating the sensor system about the measuring object), because this is what is explicitly taught in connection with Fig. 6, see particularly column 5, lines 9 to 40, where the rotation around the z-axis of the measuring object is discussed in detail. Therefore, the alleged combination of *Takagi* and *Kim*, as presented by the Examiner, would be contrary to the teaching of *Takagi* and would not take place.

Moreover, it appears that *Kim* mentions the rotation of a sensor 140 around the measuring object only because this appears to be the only reasonable way to measure the measuring object - a

human foot standing on the glass substrate 12 - from all sides. Due to the nature of the measuring task, any other rotation (rotation of the human being around some axis) would not be feasible.

At least for these reasons it is believed that the claims should be patentable in the present form. Nevertheless, claim 1 is amended herein to state that the method relates to the measuring of objects which are substantially rotationally symmetrical with respect to a measurement object axis, such as a vehicle wheel as mentioned in claims 25 and 29.

Both *Takagi* and *Kim* are concerned with non-symmetric measurement objects, such as rotor blades (in *Takagi*) or a human foot (in *Kim*). Therefore, the Examiner relies on *Vanaki* in addition to the two other references to reject claims 25 and 29. However, this rejection is clearly not warranted.

*Vanaki* is concerned with a method and measurement apparatus for measuring the profile of a railway wheel, which is indeed a measurement object which is rotation-like with respect to a measurement object axis (i.e. the rotation axis of the wheel). Specifically, as outlined in the Abstract of *Vanaki*, the method and apparatus are provided for measuring the profile of the railway wheel while the railway wheel is in rolling motion on a rail. Therefore, it is clear that the measurement object rotates, while the sensor is at a fixed position. Unlike as required in claim 1, the sensor system is not rotated about the measurement object for determining contour data. Further, unlike in conventional wheel measuring systems, the measuring object (railway wheel) is in a rolling motion on a rail, i.e. the measurement object is moved linearly past the sensor system. It is obvious that *Vanaki* has nothing to do with conventional wheel-measuring systems, and that there is still less relevance to the present claims, which include the step of rotating the sensor system about the measurement object for determining contour data.

For the foregoing reasons, claims 1 and 11 are patentable over the cited prior art. The dependent claims are also believed to be allowable because of their dependence upon an allowable base claim, and because of the further features recited

## II. Conclusion

Applicant has made every effort to present claims which distinguish over the prior art, and it is thus believed that all claims are in condition for allowance. Nevertheless, Applicant invites

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Amendment

Response to Final Office Action dated August 3, 2009

the Examiner to call the undersigned if it is believed that a telephonic interview would expedite the prosecution of the application to an allowance. In view of the foregoing remarks, Applicant respectfully requests reconsideration and prompt allowance of the pending claims.

Respectfully submitted,



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